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THE JOURNAL OF PHILOSOPHY

WHAT WE SEE WITH

IF, for the sake of an epistemological experiment, we concede that such a proposition as "Certain sensations of temperature, surface-texture, and shape occur at my physical finger-tips when I touch bodies," may be literally (i.e., non-elliptically) true upon occasion, we can make an interesting, perhaps even important, point concerning vision. Of course, we realize that many epistemologists and physiologists would balk at the concession, since it commits them to a correlation of the sensory and the physical which, upon analysis, is baffling. But let's beg them to remember how bewildering the various correlations are which they propose in lieu of the above one, and to countenance it at least *pro tem.* as representing something actually experienced though difficult to analyze, rather than rejecting it as a false proposition in its literal intention.[1]

However, to mollify those who are going to be unable to stomach our proposition even for purposes of experiment, we shall extract the poison from it, and from the thesis of this essay, by arguing that, *if* the statement concerning tactual experience is literally true—and my own bias favors this hypothesis—then the following proposition concerning visual experience is true in the same sense: "Certain sensations of color, surface-texture, and shape occur at the periphery of my organ of sight when, with it, I touch bodies."

The many theorists who have interpreted vision on the analogy of contact-experience, and who have attempted to locate visual data *somewhere* in physical space, will not find this second proposition too unfamiliar. But it will stimulate some discomfort and disagreement even among them, and wonder among laymen, because of the ordinary denotation of the phrase "organ of sight," namely, a pair of ovals containing jelly and hung in sockets in the fore-region of the skull, or these together with their various neural participations in the central nervous system of the organism. If this exclusively is what we see with, the "periphery" of the organ of sight would be

[1] The logical positivists would object to it as a confusion of two "languages," that of pure experience or phenomenology and that of "physical constructs." The physicalists among them consider those languages equipollent, but critics have shown that "equipollence" here means something quite puzzling, with the result that the correlation remains problematic.

the lenses of the ovals—or, less strictly, their retinæ—and these do not literally come into contact with the bodies we see. Indeed, such literal touching (which is the sort our thesis intends) would obliterate vision. So either our thesis is false, or we must correct the denotation of "organ of sight." We do still mean that literal touching of seen bodies occurs, and that the visual data occur at the extremity of the organ with which we touch those bodies.

We may be tempted at this point to introduce one or both of two sterile but nevertheless common concepts, as an escape from this predicament. We might say that, ultimately, the "real" seeing organ is the eye of the "mind," which somehow makes of our organisms a local habitation and, by inferential stretches beyond their peripheries, makes cognitive "contact" with things. Or, we could defend a mysterious sort of physical "touching at a distance," in which sense the physiological eye could be said to touch a distant star (G. N. Lewes). But this would simply be taking a draught from the huge keg of unintelligibility which professional epistemologists have on tap, the effects of which dissipation can, unfortunately, be mistaken for the effects of the precious wine of explanation. Not that such conceptions are intrinsically nonsensical,[2] but that they state or define a problem, instead of expressing a solution. In short, they are not literally true. And since we believe our thesis is literally descriptive of visual awareness of bodies, and at the same time explains it, let us proceed to an investigation of the visual "feeler" with which we touch or feel the objects of sight. (In unsophisticated moments, it does seem to any one of us that, in vision, we are directly aware of bodies, or that we immediately apprehend them—and *that*, non-elliptically interpreted, involves a literal contact and an organ of visual touching whose nature it is now our concern to investigate.)

We shall begin by mentioning some familiar experiences. When we first try to use a piece of physical apparatus, as, for example, a bicycle, it is not experienced as instrumental to something else (arrival at a certain destination) at all. Rather, it usurps, absorbs, and terminates our whole attention. We operate *on* it, not *with* it. After we have learned to operate *with* it, the objective termini of our consciousness no longer reside in it, but beyond it as " ends," to the realization of which it has now become truly instrumental or mediatory. It then serves us with the same unconscious and unerring precision as legs and arms. Thus, the bicycle is first a part of our non-ego, an external factor in our environment. Later, it becomes an integral part of our ego or self, where "self" is any system

[2] P. W. Bridgman says of the concept of action at a distance that scientists have not *familiarized* themselves with it, hence its rejection, but that it could become an "ultimate of explanation." *Logic of Modern Physics*, p. 46.

of bodily parts which functions as an organized unit in the realization of some end. This functional definition of "self" is probably the least mysterious or most positivistic we can formulate.[3]

Or, consider the person who is stricken blind and has to learn to "see" with a walking-stick. At first, the cane is an obstruction between him and the pavement. The data of his tactual awareness either reside in its near end, i.e., its handle, or very vaguely beyond. But when he has assimilated it into his own corpus, by learning to use it, he literally feels the pavement with it, where "he" stands for a body including the stick as an organized part, at whose far end or extremity the tactual data now occur. And this has been experimentally verified in psychological laboratories.

We could multiply such instances *ad libitum* of how bodies are acquired, but, for our purpose, it would only be *praeter necessitatem*. We have, by dint of illustration, made an important distinction between what we shall call a "native" and an "acquired" body. The "native" body is the physiological organism at *any* stage of its development, and its members or organs are such items as hands, feet, eyes, ears, etc. The "acquired" body is any physical object or event, or set of such, which, while distinct from the native body, serves the agent with the same unconscious or habitual precision as its native members. Members of the acquired body are such items as hammers, automobiles, golf clubs and balls, etc.[4]

With this distinction in mind, let us pass at once from our walking-stick illustration to what might be called a walking-stick theory of vision, since the latter rests squarely on the analogy of that sort of tactual experience.[5]

Our native endowment, of course, includes eyes, permitting "eye" its usual physiological denotation. We are born with eyes. But we are not born with an organ of sight. We *acquire* this organ, just as our blind man acquired his wooden feeler. We learn to see, or to feel things with our visual organ, as he learned to feel with his stick. The only—and significant—difference is that, in vision, our

[3] Cf. Mach, *Analysis of Sensations* (Open Court edition), p. 13: "The ego can be so extended as ultimately to embrace the entire world. The ego is not sharply marked off, its limits are very indefinite and arbitrarily displaceable."

[4] See my "A Theory of Ball-Play," *Psychological Review*, Vol. 44 (1937), p. 395.

[5] D. Katz, in his *The World of Colour*, p. 36, writes: "Corresponding to surface-colour there is surface-touch, and corresponding to the pure unstructured visual quality of film colour there is a similar unstructured touch quality. Volume colours can be placed side by side with volume touches. And corresponding to translucent and transparent colours we have touch experiences of surfaces felt through other objects." These similarities give an initial probability to the thesis that seeing is a kind of touching.

feeler is not wooden. It is what physicists call light-radiation. Illumination, as a *physical* process comprising waves or particles or both, serves the eye (or the whole optical equipment of the organism) as a visual walking-stick, and the composite of the two systems, neural and physically radiant, is what we see with—the organ of vision. We literally touch or feel bodies with this organ, as the blind man touched and felt the pavement with his nervous-system-and-cane. And, having functionally assimilated light-processes into our own corpus, by appropriate focussing or accommodation of the eyes, and perhaps other behavioristic responses, our visual data begin to occur definitely at the far end of this native-and-acquired organ of sight, namely, at what we shall call the *proximate source* of light-radiation, be it a mountain, or billiard ball, or what not. When we touch the body with this delicate feeler comprising a neural optical apparatus and physical radiation, we have "sensations" of color, texture, and shape at its tip, just as sensations of temperature, texture, and shape occur at our finger-tips when they contact the object. We might press the analogy further by calling the colors of things their "visual temperatures." The color of an object is how it feels to the visual touch. And people do speak of warm and cold colors. Moreover, color stands to the tip of the visual feeler as temperature stands to the finger-tip. And color, like temperature, is more "qualitative" than shape or texture, being subject to intensive measurement only. However that may be, the point we have just been trying to make is, summarily, that we feel or touch things not with our eyes, but with our organ of sight, which involves our optical equipment plus physical illumination and which is therefore in part a member of an acquired body. The "self" of the trained seer is a system of physiological and physical elements including currents of radiation, with which he embraces the objects in his field of vision.

In support of this general thesis, let us consider the phenomena of visual manipulation and empathy. There is such a thing as handling something or someone with one's visual organ or, if you like, with one's eyes, where "eye" has our expanded meaning. And since such manipulation may readily become man-handling or a kind of remote mauling, a careful system of conventions has arisen to regulate it—almost as strict as those governing the use of hands. We must take care how we touch people or things, be it with our hands or eyes, since literal touching takes place in both cases. (Again we use "eye" as equivalent to "organ of sight," for brevity.) Tagore says: "I have kissed this world with my eyes," and, "My eyes feel the deep peace of this sky, and there stirs through me what a tree feels when it holds out its leaves like cups to be filled with sunshine." He who has never known visual experiences of this

sort, during which his "self" is expanded to include a wide system of things one insignificant member of which is his native body, has never learned to see in a fuller sense of "seeing." But, in so far as he sees at all in any sense, he does literally touch the object of sight, "he" being a system of elements a part of which is physical illumination. All this throws considerable light on the psychology of embarrassment.

As for empathy or *einfühlung,* since it is an obvious case of a kind of acquired or "epistemic" touching which moves the native body of the toucher in sympathy with the movement of the touched object, as at a football game, nothing more need be said about it. It is a manifestation of the real participation of the (native-and-acquired) self of the observer in the nature of the object.

Let us cease from stressing the idea that seeing and ordinary touching are both modes of tactual experience. We want now to emphasize a significant difference.

We do *not* have to "acquire" an organ of touch in the sense in which we *do* acquire an organ of sight. At birth, we are sensitized native bodies such that, when parts of their surfaces make contact with things, sensations occur at the points of contact. Where the native body itself, or some part of it, makes direct contact with the object, there occurs what we shall call "native touching," whose characteristic is that the data involved appear at the contacting periphery. Though in a sense we "acquire" the use even of our native limbs, this acquisition does not necessarily entail, in the case of native touching, the incorporation *ab extra* of physical elements such as walking-sticks. And if, like the blind man, we try to elongate the range of native touching by means of a cane, there is something unnatural or undependable about the result—some of us may doubt that a displacement of data towards the cane's tip *ever* occurs —since the organ of native touching is by nature complete prior to or independent of any such assimilation of factors from without. Moreover even if the texture and shape sensations may be eventually located at the far end of this unnaturally elongated organ, the temperature-data are lost in the process. No one can feel with a stick how hot or cold a flat-iron is—a bit of information his finger-tip readily gives him.

But consider vision. The seeing organ or equipment of a baby is *by nature in*complete, and remains so throughout its life, unless supplemented by something *ab extra.* In this sense, we are all born blind. Our visual data at first appear vaguely in an indeterminate zone immediately before the eyes. We reach for the moon. Or, they may even seem at first to be in contact with the eyes—as reported in the famous case of Chesselden—before one has learned

to see.[6] Then by ocular habituations involving convergence and accommodation, we get into organic connections with a light-medium. (In philosopher's parlance, "internal relations" are established between our native optical apparatus and the physical medium of light.) This is learning to see. We acquire a body, by means of which we are in touch with things well outside our skins (i.e., our native bodies). It is at the peripheries of this acquired bodily member that our visual sensations occur. There is no definite seeing at all until we have made this acquisition. And, just as the temperature-data are eliminated by an unnatural extension of a *native* feeler, so the color-data are obliterated by an unnatural restriction of the *acquired* visual feeler, as when the object is brought too close to the lens of the eye. The consideration of this significant difference moves us to assert that we possess no visual organ at all until our native equipment gets organized with reference to something with a distance-reach, namely, a physical process of light-radiation. Aristotle probably meant something functionally similar by his statement that an organ of vision comes into being only when the eye, with the coöperation of something objective, begins to see. And if our general conception of the organ of sight begins to seem bizarre, consider how obviously the eye, unlike the finger, is constructed to enable the observer to participate in a distance-reach rather than in native contact; such that the truly bizarre and unlikely conception is the one which locates visual data in or near the brain as the last terms of a causal series originating from without.

Perhaps we should now ascertain what explanatory value our hypothesis concerning the organ of sight has, together with its difficulties. This will set it in a clearer light.

What about mirror-images, or reflection generally? What do we directly touch, if anything, when we see a reflected image? The answer is startling in its simplicity. We still directly see, or visually touch, the reflected original—what we have called the proximate source of light-emission—in proportion to the adequacy of the reflecting surface as a mirror. For, after all, the light-beam or system of such which functions as the visual feeler is, *qua* instrumental to the observer, a kind of optic nerve, such that if none of the properties of this physico-neural current is absorbed or lost at the reflecting surface, we still feel or visually touch, by their means, what lies at its far end (*terminus a quo*) or proximate source—just as we continue to feel a body at our finger-tip despite a crook in the arm connecting it with the brain. And as a disturbance in the con-

[6] Mach doubts that visual data ever appear as if on the surface of one's own eyes: *op. cit.*, p. 136. R. Déjean, in his *La perception visuelle*, adduces experimental evidence in support of a similar view.

necting nerve at the elbow would produce sense-data there, obliterating those at the finger-tips, so an imperfect mirror interferes with, even destroys, some of the properties of the light emitted by the reflected original, thus itself (the reflector) becoming the proximate radiant source and the object of vision. But, by means of a perfect reflector, we visually touch the reflected original as directly and literally as we do when we turn from the reflector to look at it. This turning only removes a kink in the visual feeler, a kink which (with qualifications to be mentioned below) makes no difference anyway. Thus we can see or visually touch even our own eyes by means of a mirror, as literally as we see anyone else's—where what we see *with*, however, is, as in *any* case of vision, something more than just those physiological optics; or where "we," the seers, are bodies which have incorporated light as an acquired member, and it is this member which figures in the visual touching of our own eyes.

The analogy between an arm crooked at the elbow and a stream of light bent at a reflecting surface can not, however, be pressed any further, because of the visual phenomenon of things appearing in "the line of sight." The line of sight is fixed with reference to the position of the eyes. Where reflection and stereoscopy are involved, it is a queer sort of line, not to be mistaken for a physical length.

(point of view) $A \longrightarrow \text{———————} B \ldots\ldots\ldots\ldots C$

It is such that, where B is a mirror and C something it mirrors for a pair of eyes at A, both B and C being in this "line of sight," C nevertheless is *not* beyond or behind B with respect to A. Nobody in his right mind says he is going to see himself "behind" or "beyond" or "through" the mirror. He looks at himself "in" the mirror.[7] What is "in" the mirror is in the line of sight, but it is not behind or beyond the mirror. In this sense, the reflected object C is, strictly speaking, observed to be neither farther from nor nearer to the point of view A than the reflector B. These are some odd properties of a line of sight, to which others having to do with stereoscopy might be added.[8] But we are concerned here only to urge that what appears "in the mirror" is the real original and its original context, allowing for certain relational inversions, such as the exchange of right sides for left, etc. *These changes signify only certain geometric modifications in the feeler with which we visually touch the object, not that we are seeing something intrinsically or*

[7] If anyone insists that the reflection is behind the mirror, and hence to be seen through it, we shall concede, but not in the sense in which the wall is behind the mirror. That there are two kinds of "behind" is, in effect, the nerve of our argument.

[8] See footnote 10.

numerically other than this original when we view it in a mirror. And we also assert that a displacement of *some* sort does occur in cases of reflection, in this sense only, that we apprehend the *original object* in a line of sight which does *not* define or conflict with its physical or "real" position. Perhaps this analysis, despite its incompleteness, throws light on Alexander's attempt to explain how sometimes we may see a "real" object in a position it does not "really" occupy.

Another feature of visual experience which our hypothesis explains is the overlapping of fields of vision, and the irresistible sense of a clear-cut, communal "out-thereness." A part of your "acquired" body is identical with a part of mine when we functionally incorporate, as an acquired member common to both bodies, a portion of the objective system of light-propagation. With respect to this part, we touch the object with the same feeler, thereby enjoying a common visual experience and a sort of "transitive being" beyond the extremities of the native body.[9] (For the objective idealist, this is the coalescence of the self with the world.) But since our native physiological equipment also enters, at the subjective pole of awareness, into the constitution of the organ of sight, there is a factor of privacy in vision. And this indeed is the case.

We have shed, perhaps, a modicum of explanatory light on the distance-factor, despite reflecting or distorting media, in vision. Consider now the situation in which there are no such media, but only the inevitable time-interval, where the event of light-emission from the object occurs before the percipient event. Does not this preclude direct visual touching? The answer is negative, and an illustration from auditory experience will show its plausibility. If you observe an airplane doing a power-dive, you will hear the bulk of the sound in a region behind the plane—a region it plummeted through prior to its being heard. Now, common sense would say—though in other words—that our auditory reach lays hold of the roaring plane where it *was* some seconds prior to the audition. That is, the plane-as-it-was is a *datum* of auditory awareness. The fact that the feeler involved (atmospheric in this case) is constituted by a series of events, the first and last terms of which are not *simultane-*

[9] Looking through yellow glasses at an object which then appears yellow is still a case of laying visual hold on that object, thanks to the transparency of the glass, but, due to the change it works in some of the wave-properties of the "feeler," the color-factor is modified. Since we have throughout argued that colors are "sensations" at the periphery of the organ of sight, color-variability does not present us with theoretical difficulties. Indeed, it is rendered intelligible by our concept of an acquired body, variations in whose conditions (glass, wave-frequency, etc.) naturally produce variations in how the visually touched object "feels" to the touch.

ous, places no theoretical constraint upon us to assign the sense-data a *place* different from that occupied by the objective proximate source when it was the first term of that series. Or, suppose nerve-impulses in the native body were transmitted very slowly, and that a moving object contacted for a moment your finger-tip in passing. You would not feel its cool smooth surface till after it had left behind the point of contact, but, when the sensation did become a datum of tactual awareness, it would occur at your finger-tip, where the object *was.* And your tactual experience at that moment is precisely what it would be if the body had remained stationary in that position, at the point of contact. It is in this sense that we directly touch—at least in some modes of sensation—bodies where and as they "really" were, when they constituted the first-term of the "feeler series."

The application of these statements to vision is obvious and simple, in the light of what has gone before. And the occurrence of a color-sensation at the far tip of the visual feeler where the object was, is no more wonderful than a tactual sensation occurring at a finger-tip slightly after the moment of contact. Of course, if the visually-touched body remains stationary in the line of sight, or moves only along it—granting, as before, the absence of deflecting media—the data occur in the "real" direction, if not precisely in the position,[10] of the physical object. But even in this case, the data constitute the sensible nature of the object as it *was,* at the moment of light-emission, since there is always the time-interval. If, however, we define "present" operationally or practically, we may be said to see bodies as they *are,* at least for terrestrial distances involving negligible time-intervals. This analysis, by the way, reconciles the dualist's conviction that sense-perception is a direct revelation of "essences" rather than of actual *existents*—"actual" meaning (*à la française*) "temporally located in a mathematically fixed present"—and the naïve realist's assertion that it is a direct revelation of *reality* nevertheless, the "real" object having a temporal spread beyond that of a mathematical present, such that it may appear at times and even places in which it is not "actually existent," Hume notwithstanding.[11] To prehend bodies as they strictly *are* (present-tense) sometimes means to prehend them as they are at the moment of the prehending, which sort of prehension involves concipient, not percipient, events. Or, in White-

[10] If the object is too distant from the observer to be in the zone of stereoscopic vision, the visual data do not physically define its position. See my "Are There Vague Sense-Data?" in *Mind,* Vol. XLIII (1933), particularly p. 480.

[11] *Treatise on Human Nature,* Pt. III, § 2.

head's words, such prehensions "are expressible without reference to a multiple relation including a percipient event."[12] But sense-perception may reveal bodies as they are, "are" having its tenseless and more ordinary meaning.

Someone may hesitate to sympathize with our walking-stick theory of vision on either one or both of the two scores: (1) physical illumination is too unlike walking-sticks to serve as a visual feeler, and (2) endocephalic or intra-cranial stimulation is sufficient by itself to result in the appearance of visual data apparently outside the native body and in the line of sight, as when parts of the brain are subjected to electrical shocks.

(1) Let no one forget how different seeing is from native touching. We must expect the visual feeler to be considerably unlike a walking-stick or any physical object which serves to elongate—by doing violence to its nature—an organ of *native* touch. The organ of sight is not an organ of native touch at all. Whether physical light consists of waves or particles or both, whether it is a physically continuous or discontinuous process, is immaterial to our theory of the visual feeler. It may have any one of these characteristics, or others as yet undiscovered, and still function as the means of acquired touching, by which we visually contact things. The immense velocity of light or the rigidity of its medium, make visual experience quite similar to the native tactual, since in both cases the percipient event and the perceived object are as simultaneous as is physically possible and the object has definite spatial properties. So long as this "rigid linkage"—which never is and need not be absolute—is secured by light, whatever else it may be, it serves well enough as the acquired part of the organ of sight, at the extremity of which the sensations peculiar to vision occur.

(2) We all know that a man who has lost a leg will, for an appreciable time after the severance, have sensations below the stump, seemingly in empty space. From this, and from cases of artificial brain stimulation resulting in sense-data apparently outside the native body, one may be inclined to argue that, after all, the "acquired feelers" we have advertized so strenuously have a much less significant rôle or no rôle at all in the drama of sensory experience *qua* sensory, the native nerve-system including the brain being its necessary and sufficient conditions. This is a delicate point, but concerning it we may fairly say this much: (*a*) it is highly improbable that a man born one-legged—or whose native body had never been organized with reference to a leg afterwards lost—could be made to have sensations beyond the stump by any set of purely intra-organic excitations. Similarly for the man born blind. (*b*) Granting,

[12] *Concept of Nature*, p. 158.

however, that sensations may acquire some sort of objectivity or "out-thereness" without any assistance of our acquired feelers consisting of strands of physical radiation, we must none the less remember that, *with* such assistance, they acquire a different sort of objectivity. They become the qualities of a coherent, mathematically expressible system of "real" things distinct from, and as immediately experienced as, our native bodies. This is not surprising, since the acquiring of one or more of those feelers is an extension of one's "self." By the acquisition, the self eventually becomes an enlarged body including non-native members with which it—the expanded bodily self—pervades the world to "touch" the things in it. This activity we call "sense-perception," whose most precious mode is vision because it, "most of all the senses, makes us know and brings to light many differences between things."

So we conclude our epistemological experiment, painfully aware of a number of unresolved difficulties to which it has given rise. We may even have imbibed, unawares, some of the contents of the above-mentioned keg of unintelligibility. But it appears that the difficulties do not impair the general conception of seeing as an acquired (and literal) touching. They issue from our failure to have carried the analysis of certain details far enough, or perhaps even from an incorrect analysis of some of them. The concept, however, of an expanding or expandable ego, incorporating parts of the physical environment into its own body—eventually *being* such a body—and thereby extending the range of its immediate experience, remains a fruitful one.[13]

VIRGIL C. ALDRICH.

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NEGATIVITY AND ETHICISM IN ETHICS

MR. A. N. WHITEHEAD attacks what he calls the fallacy of misplaced concreteness in those theories of modern physical science which reduce the universe to a simple mechanistic pattern by abstraction, and then locate reality primarily in that skeleton. In this study, it shall be contended that the traditional theories of ethics have committed this fallacy in a no less flagrant fashion than modern scientists, and that an additional stigma attaches to them because they do so not merely in modern times but throughout the

[13] Condillac said of the organ of sight ("la vue") that "elle manie, elle embrasse des objets auxquels le toucher ne peut atteindre . . . Les rayons sont précisément à l'œil ce que deux batons croisés sont aux mains" (*Oeuvres*, Vol. IV, pp. 35 and 37; edition of 1803). Subtract from this theory of vision Condillac's assumption that this visual distance-reach is not real, but a mere "seems-so" by psychological association with tactual-motor sensations, and you have a fair anticipation of the theory outlined in this essay.

history of the study. Modern scientists had at least the justification which their new techniques and discoveries carried with them, but ethical writers, ancient and modern, had no such unique insight into the features common to concrete human ethical situations and problems to justify their undue emphasis upon generalities. In ethics the fallacy of misplaced concreteness appears in many different guises: in general it consists of a preoccupation with the questions: what is "goodness," "the good life," "wise" conduct, etc., instead of with the problems of individual and social goods, types of good lives and living, and special problems of "right" conduct, social and personal. In this study, this tendency shall be referred to as the fallacy of "ethicism." It shall be our task to sketch certain leading traditional ethical theories and point out this fallacy wherever it has been committed. Then we shall attempt to reformulate ethical problems in the light of those particular personal and social problems and situations in which various goods and wise actions and attitudes appear. Lastly, we shall raise the general questions concerning the nature of the ethical theory or theories involved in those situations.

In modern mechanistic physical science, the fallacy of misplaced concreteness resulted in a false emphasis upon certain general tenets which, at least until the advent of modern relativity theory, were considered to be true at least within the special limits which their advocates claimed for them. At least it was meaningful, anyone but the most metaphysically oriented person would have admitted, to contend that the universe is a gigantic mechanism or dynamism of physical particles propelled according to observable laws. However unaffected the lives of common folk remained by this hypothesis, its opponents no less than its advocates saw in it a general theory that was at least possible unless laid aside for very cogent reasons, and highly workable in explaining wide ranges of phenomena from planets to atoms. In ethics no parallel situation has ever obtained. Even hedonism, which despite the claims of its opponents, probably comes close to explaining a majority of the actions of a majority of men, ran up against certain difficult negative cases at the very outset of its career, and the number of these cases has increased with the ingenious observations of its critics. Yet even if some such ethical theory as hedonism could hold a position in its field analogous to mechanism in physical science, the charge of ethicism might be brought against it in a more effective sense than the kindred charge of misplaced concreteness has been brought against mechanism. Mechanism, at most, offered an explanation of every crucial phenomenon of a certain type; at least, a false or partial explanation of it. Hedonism, and almost every other tra-

ditional ethical theory, offered *no explanation at all* of many crucial problems of human character and conduct. In other words, many ethical theories, such as hedonism, committed the fallacy of ethicism, by restricting themselves to highly artificial ethical situations, or to situations which, if real, consisted chiefly in problems which are, in a highly special sense of the word which I shall try to explain, "negative." In so doing, they ignored most real ethical situations, and dealt in some cases artificially with those which they did consider. Finally, to make matters worse, they proceeded to generalize dangerously from such conclusions.

To be more specific, let us take an ethical situation which typifies ethicism at its worst as well as giving us a preliminary notion of the conception of "negativity" which in the opinion of this study is as crucial in ethics as it is neglected in the literature of that study. Take a normal adult man faced with the problem of yielding to some self-gratifying passion. To yield or not to yield, that is the question. Let us list a few answers, the elaboration of which has occupied many pages in ethicist writings. (1) Hedonism, in its sensual form, says, yes, by all means; in its Epicurean form, yes, but with thought, taste, and decorum. (2) Anti-hedonism, in its monastic form says, no, in no case; in its refined form, yes, but with averted gaze and mind. (3) Rationalism in its Platonic-Aristotelian form says, yield, if it is the proper kind, but do so under the guidance of right reason and in proper relation to the right mean. (4) Intuitionism says, refer outward to the Ten Commandments (or some parallel code) or inward to conscience (or the ethical sense) for a clear reading. (5) Naturalism says, yes, and aggressively. (6) Realism, itself providing no answer, proceeds to tell us of tertiary qualities in the object involved. (7) Humanism presents its pious belief that there was significance in the situation in either event because *nihil humanum a me alienum puto.* Aside from the question of whether these answers in all of their variety are very enlightening, there is in the opinion of this study a tragic note in the whole situation: the tragic note of negativity, which in its essence is the ethical fallacy of misplaced concreteness or ethicism. Might it not be very legitimately asked: Why is a normal adult man so preoccupied with this problem?[1] If his life is otherwise so impoverished that this problem alone is present, is he an adult, is he normal, and in the widest context of our human world, is he a man? The answer may be that some men frequently, and most men infrequently, are presented with precisely this problem with no other complicating factors. The answer may equally well be, however, that there is no man involved here at all but only the axiological

[1] Cf., W. Fite, *The Platonic Legend,* Scribners, N. Y., 1934, pp. 305–306.

atom of the ethicist. It will be the contention of this study that throughout most treatments of this subject, the latter has been the case. The traditional accounts of this problem are almost all negative because they assume a man without relation to his society, family, career, books, friends, travel, wealth, poverty, hopes, fears, ambitions, dreams, past experiences, or even the diversion of an annoying fly; in brief they assume Plato's puppet with his three-sided soul, or some modern equivalent, with nothing to do save to yield or not to yield to this one little perplexing passion. This is one example of the negativity which has pursued the ethicist so relentlessly that he has become blinded to the nature and possibility of his subject. It is an example of the ethical fallacy of misplaced concreteness which it will be the task of this study to elaborate and correct.

This study contemplates an ethics of personal and social situations dealing with the types of decisions and evaluations human beings are forced to make in many elaborate and perplexing situations. How shall a parent deal with his child? What are the problems facing a person seeking an education? What is the nature and value of travel? Most crucially, what are the values involved in the choice of a career? What is the nature of the values involved in marriage, real marriage, not those portrayed in fairy-tales, motion pictures, or the books of Mrs. Stopes? What values are involved in having children? What is the significance of the experience of childbirth for the mother and father? What are the ethical questions involved in sickness, poverty, wealth, power, fame, success, failure, old age, and death? And, in its proper perspective, what is pleasure? What is it worth, what are its kinds? Again, on the social side: What is the ethical significance of the fact that there are modern nation-states into which persons are born? What is the ethical significance of churches? What is the ethical significance of such professions in the world as law and medicine? What is the ethical significance of our modern press? What is the ethical significance of war, crime, disease, poverty, and insanity? Lastly, what is the ethical significance of those deep inward experiences known as art, religion, and philosophy? These are some of the questions which would seem to lie in the province of ethics once the study is freed from negativity and ethicism. It is the belief of the writer that such a conception of ethics can avoid the twin pitfalls of casuistry and pragmatism.

II

An ethical theory is "negative" if it fails to treat certain basic situations in life in which individuals and groups find themselves

by reason of their very nature as individuals and groups. Such negativity depends, obviously, upon precisely what situations are basic. The basic quality of a situation depends, in turn, upon what is included in the nature of individuals and groups as intrinsic to them. The determination of these "basic" situations and the "nature" of man which gives rise to them must be entirely empirical. From birth to death a person lives through such a complexity of problems and events that hasty generalizations regarding what is intrinsic must be avoided. Yet the fact that some children are orphans does not mean that the problems of the relations of parents to children are extrinsic to the nature of human beings. In fact the special problems of orphans throw all the more clearly into relief the importance of family problems. Again, the fact that some persons have private incomes and others are in bread-lines, merely brings out all the more definitely the problem of a bread-winning career for many others. Again, the fact that some lands are free from the benefits and harm of a modern press in no sense means that the rôle of the press in modern life is an unimportant one. In general, an ethical theory is negative if it fails to deal with the various axiological determinants in the lives of individuals and groups.

Such ethicist theory may fail in either of two ways. It may commit the fallacy which we have already referred to as the ethical fallacy of misplaced concreteness, and by its very search for all-inclusive generality ignore more ethical problems than it explains. This type of negativity, as we shall find, is prevalent chiefly in the traditional accounts of ethics. On the other hand, it may avoid the fallacy of misplaced concreteness only to fall into negativity in another (to-day more prevalent) fashion, by dealing only with concrete ethical problems and situations (social or personal) of a preventive or remedial sort. By so doing it frequently fails to realize the essentially "escapist" nature of its attitude, or realizing it, justifies itself merely by the fact that there are evils (negative ethical values) in many situations, and these need prevention or removal. An example of the first type of negativity we have already found in the problem of yielding or not yielding to a passion. Let us turn briefly to an example of the second. Let us consider an adult human being who has been sick, but is now cured; who has been insane, but is now mentally well; who has been in legal difficulties, but has successfully extricated himeslf; who formerly stuttered, but can now speak fluently; who was formerly unhappy in the city, but who now lives in the country; and, to end on a lighter note, had lost a treasured souvenir of his sweetheart, but has now found it. It would be quite natural to say that in each particular

he has now escaped from an evil (negative ethical value). No matter how many such negative conditions we might add (from toothaches to typhoons), might we not agree that his present condition does not represent a very full or significant life? If we held that his life (after he had been fattened, cured, psychoanalyzed, etc.) is the good life, we would have fallen into the fallacy of negativity, not because (following the ethicists) we had abstracted too far, but because every concrete feature which we were able to point out is negative in the sense that it is merely an escape from some undesirable condition.

This type of negativity is rarely found among the traditional ethical doctrines although some (like Stoicism) tend to arrive at the same result. It is more frequently expressed in the lives of persons who are by nature timid or fearful, or who professionally or personally happen to be especially interested in preventing the appearance of negative ethical values, or in remedying them upon their appearance. As important as are these tasks, we must not be blinded to their essentially negative, remedial, or preventive nature, if we wish to proceed to disentangle from them the many other ethical situations involving positive, or as I shall call them below, fruitful, ethical values. Returning to our individual: suppose he is now recovered from his sickness, what then? Suppose he is again sane, what next? Suppose he no longer stutters, is he to bend his talent to no new, positive end? There are many physicians, psychoanalysts, criminologists, military men, etc., who within their professions are deeply interested in the nature of the positive ethical values which the individuals or groups with whom they have professional contact are able to experience and achieve, over and beyond the escape from the evils, the prevention and removal of which it is their more specific professional task to achieve. By and large, however, the very enormity of the task of preventing and removing such negative ethical values as crime, war, disease, insanity, etc., affords ample justification for the claim on the part of such professional men that beyond the prevention or cure of evils, there is little time left for them (as professional men) to ask: what then? The patient who walks cured from the office of the physician or psychoanalyst can be escorted only as far as the door, for others are in line. The general who returns his country rescued but ruined from the hand of the invader must begin planning (as a general) not for the rehabilitation of the countryside, but for another defence. Examples of this kind of negativity are so numerous and so clear that there is no need to elaborate them further at this stage of our study. When we return to the study of ethical situations, personal and social, after having applied the conception of negativity (and its

counterpart, fructivity) to the traditional ethical teachings, we shall have occasion to analyze in detail the values involved in these negative and remedial professions, to attempt to evaluate their worth, and to consider certain borderline cases (for example, the work of the obstetrician).

It might be quite legitimately asked at this point whether or not the two types of ethical negativity that have been mentioned are not so essentially different as to have no relation to each other. Is not the ethical fallacy of misplaced concreteness, as committed by the writers of traditional ethics, negative in one sense (in its abstractness) and the fallacy of considering only preventive and remedial values negative in an entirely different sense (its concern with the removal of concrete negative values)? Now it is true that different groups of people commit this fallacy of negativity in these two different ways. It is, furthermore, true that neither group makes the mistake of the other. The ethical theorists (with a few exceptions) make only the mistake of too great abstraction, while the escapists, personal and professional, usually avoid ethical generalization like the plague. But in general it is the contention of this study that those situations are basic in the lives of human beings and groups which begin precisely where the respective concerns of the ethicists and the escapists end. In general, they both negate (however differently) positive human value situations. The former, it is true, leap to general formulæ which ignore many particular ethical problems positive and negative; while the latter (remaining in the life of practice) ignore only positive situations. But if what is intrinsic to human nature in individuals and groups should turn out to lie precisely in those positive value situations in which more than an axiological atom is operating, and which involve more than escape or remedy, it would seem to follow that the findings of the ethicist and the escapist have the common characteristic of ignoring those major situations. Nor is the plea of the escapist that negative values bulk larger in our human world contrary to this claim. Admittedly there are many evils which need to be prevented and remedied far more effectually than they are at present. Even so, all such mending, checking, curing, preventing, and repairing, to the extent that it remains merely such, points further to another end, the subsequent achievement of positive ethical values, the nature of which it is the primary task of ethics to describe. Once a wrecking crew has put a wrecked railroad engine back upon the track, it is not merely to stand there, although where it goes next under its own steam is no concern of that crew.

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BOOK REVIEWS

Experience and Prediction. An Analysis of the Foundations and the Structure of Knowledge. HANS REICHENBACH. Chicago: The University of Chicago Press. 1938. x + 411 pp. $4.00.

Professor Reichenbach's interpretation of probability statements in terms of relative frequencies was worked out by him with great mathematical detail in his valuable *Wahrscheinlichkeitslehre* (reviewed in this JOURNAL, Vol. XXXII, 1935, p. 389). In the present volume he restates the essentials of his ideas on the subject in less technical form, and develops their bearing upon a number of related questions in epistemology, scientific method, and general logic.

The first chapter is addressed to determining the conditions for meaningful statements. Following a sharp critique of the extreme form of the "verification theory" of meaning, according to which a statement is to be regarded as meaningful only if it is possible to establish it as determinately true or false, Reichenbach proposes a more liberal criterion: a statement is to be considered as meaningful only if it is possible to attach to it a *weight,* where weight is associated with a probability coefficient interpreted as a relative frequency. The next three chapters are devoted to epistemological themes. Reichenbach first discusses the traditional problem as to the existence of an external world: assuming for the sake of argument that what we directly apprehend are subjective impressions or sense-data, the question is whether "there is an external world outside our private world." Reichenbach finds this to be a genuine problem on his liberal criterion of meaning, and has little use for those who find it otherwise; in fact, he believes that an affirmative answer can be given to the question, although its coefficient of weight is less than complete certainty. Indeed, every material statement has a weight which lies between the extreme values of *0* and *1.* Reichenbach next addresses himself to the status of impressions: he denies that we do apprehend them directly, and argues that their existence is simply *inferred* with some degree of probability. The most satisfactory epistemological basis for the logical construction of the world is found in direct observations of concrete objects, and starting from such a basis Reichenbach outlines the chains of probability inferences which hold together the various parts of our knowledge. The final chapter discusses the relations of probability and induction, and summarizes the author's by now familiar "solution" of Hume's problem, as well as his conception of the ordinary two-valued logic as simply a crude approximation to the more adequate infinite-valued logic of probability.

In spite of its many merits, I have found the book very puzzling and on the whole disappointing. I shall indicate briefly a few of the unsatisfactory things in it. Reichenbach's discussion of the problem of the external world is one of its most perplexing features. He spends eighty pages arguing the genuineness of the problem and presenting his solution; and then devotes another thirty pages to showing that impressions, whose alleged subjectivity and immediacy generated the problem, are in fact *inferred* from a basis which is neutral to the subjective-objective distinction. If we let this pass, however, and acknowledge the genuineness of the problem for the sake of the argument, what sense can we make of his solution of it? How can a conception of probability, which takes its stand firmly upon interpreting probabilities as relative frequencies in empirical sequences, be made to apply intelligibly to a domain inaccessible to the requisite material investigation? Universes, with or without external worlds, are not so plentiful as blackberries; and not even Reichenbach's ingenuity can make plausible the assumption that a statistical view of probability is relevant to solving such a problem.

Reichenbach's belief that his conception of probability is germane to the problem of the external world seems to me a consequence of two further views he professes. In spite of his brave (but highly dubious) statement that sense-data are inferred, one can not escape the conclusion that he subscribes to a dualistic epistemology and that he is at heart a subjectivist with respect to perception. There are passages in which he writes like Eddington at his best (or worst), e.g., "Even the things which we believe we see as they are, are objectively of shapes other than we see them. We see the polished surface of our table as a smooth plane; but we know that it is a network of atoms with interstices much larger than the mass particles . . . we see a *substitute world*—not the world as it is, objectively speaking." I think it is such commitments which lead him to see a genuine problem in the question as to the existence of the external world. The second point is more technical, and is connected with Reichenbach's claim that colloquial statements about the "probability of theories" can be justifiably interpreted only in terms of relative frequencies. Reichenbach regards the problem of the existence of the external world to be analogous to the problem of the existence of atoms, electrons, and other scientific objects. If theories about the latter, which are supported by evidence supplied by gross and refined observations, may be said to be probable (in the frequency sense), we can imagine Reichenbach asking, why can not the existence of the external world be said to be probable in the same sense? I think the answer is that what is usually designated as the "probability" of theories is not capable of a statistical interpretation, at

least not in the sense which Reichenbach specifies. I think we must distinguish between the meaning of the word "probable" as it is used in the context of vital statistics and games of chance, and the word "probable" when used in connection with theories and the estimation of the evidence for them: the former is to be interpreted in a frequency sense, while the latter denotes a different concept whose analysis is admittedly difficult. In any case, the issue is a large one, and can not be discussed here. But although Reichenbach has been urging the identity of the two concepts for many years, I do not find that in the present book he has advanced his case.

Reichenbach claims that "meaning" and "truth" are definable in terms of his conception of "probability," and that the ordinary logic is just a special case of his probability logic. It is not clear in what sense the latter is taken to be a generalization of the former, and many serious difficulties in Reichenbach's views on this matter which have been pointed out are not adequately considered in the present volume. But however that may be, there is something undoubtedly wrong in his present formulation of the probability theory of meaning. It is at least plausible to maintain, as he does, that two sentences have the same meaning if they lead us under all possible conditions to the same action, even if such a formulation is quite vague. It is not even plausible, but demonstrably mistaken, to maintain, as he also does, that two sentences have the same meaning if they obtain the same weight, or degree of probability, by every possible observation. Thus, to take a trivial example, when we are tossing a fair coin the sentences "This coin will fall heads uppermost on the next toss" and "This coin will fall tails uppermost on the next toss" are assigned equal weights but distinct meanings. Equality of weights is at best a necessary condition for sameness of meaning; it leads to absurdity to suppose that this condition is also a sufficient one.

These adverse comments notwithstanding, Reichenbach's latest book is eminently worth reading both because of the suggestive things it says and of the important problems it raises. In addition, students of the contemporary philosophic scene will find in it interesting material on the affiliations of European philosophy of science and our home-grown pragmatism. Reichenbach is sympathetic to pragmatists, although he is not sure whether he is one himself; certainly his resuscitation of epistemological problems buried long ago by American pragmatists makes him a strange and unique specimen. His book gives evidence that although pragmatists have something to learn from him, he too has something to learn from them.

E. N.

The Axiomatic Method in Biology. J. H. WOODGER. With appendices by A. Tarski and W. F. Floyd. Cambridge University Press. 1937. x + 174 pp. $3.75.

This is a work of signal importance in so far as it not only inaugurates a new subdivision of biology but also applies to biology a philosophical instrument which raises the philosophy of biology, and indirectly the philosophy of science, to a new position of eminence. J. H. Woodger has taken a long stride forward towards inculcating methods of exactness and rigor into biology, and representing the philosophy of science as the discipline of exact definitions, explicitly stated assumptions, and the rigorous deduction of logically related theorems. As a biological work, *The Axiomatic Method in Biology* stands as the inceptor of a new biological science, and can in this sense be compared to Harvey's *De Motu Cordis* or Wolff's *Theoria Generationis.* As a philosophical work it is not as original, but it deserves a place of prominence as a guide and example to future endeavors in philosophical research among scientific topics. As philosophy it owes its incentive to many predecessors in symbolic logic and the philosophy of science, but especially to Whitehead and Carnap.

In brief, Woodger's contribution consists in applying the technique of symbolic logic to certain branches of biology, resulting in the outline of a logistic systematization of genetics, embryology, and taxonomy. The word "outline" is used advisedly, for his work is incomplete. Much elaboration is still to be done.

By way of introduction, the first two chapters serve as a telescoped summary of those logistic concepts and methods which are essential to an understanding of their subsequent application to biology. Though these are admirably presented, they are insufficient in themselves to prepare a reader, unfamiliar with symbolic logic, for the chief topic of this book. The long third chapter contains the heart of the subject. Based upon ten undefined concepts, eighteen axioms, and numerous definitions, a purely logistic system is constructed. This culminates in three sections dealing respectively with generalized Mendelian theory, embryology, and taxonomy or classification with respect to genetics and embryology. The last two sections are definitely in a sketchy state, the final one not even being systematized. This Chapter III is exceedingly difficult reading, especially as almost none of the theorems have proofs supporting them. An appendix presents the proofs of some eight theorems. As a result, this book will tax the resources of a trained logician, and will certainly terrify biologists to the extent that most of them will abstain entirely from reading it.

Here indeed we have a subject of undeniable value which may fail to develop because of a paucity of investigators. It is futile to entertain the hope that biologists will concern themselves with it; the task falls upon the philosophers, and in particular upon logicians interested in the philosophy of science. This reviewer does not wish to maintain that the philosophy of a science is to be identified with a logical analysis of its concepts and axiomatic constructions of those of its regions which are more or less stable, but he does claim that this is an integral part of the work. It is the task of a philosopher of a science to study the history of that science, and to serve as its critic by applying to it methods of rigor with which its assumptions are delineated, its concepts exactly defined, the interrelations of its propositions investigated, and the scientific methods of procedure challenged and evaluated. The duty of a scientist, acting as philosopher, is to systematize the results obtained by experiments and to point out the course of further experimentation. Woodger has not attempted all this, but he has shown how the mathematical approach can be introduced into biology.

The philosophy of science as described by this reviewer is not as unorthodox as might appear. The progress of science during the last half-century has increased its size so greatly and has induced such minute specialization that some means of reuniting knowledge into a unity is highly desirable. To do this has always been the goal of philosophy. But this can no longer be done by a survey of scientific discoveries for no one can any longer expect to master sufficiently the manifold of scientific knowledge to relate its parts. Apparently the only means available for this unification lies in a study of the logical roots and structures of the various subdivisions of science, with the expectation that by comparing the abstracted forms of scientific domains, identities, similarities, and differences will be laid bare. Obviously, since methods of exactitude can significantly be applied only to the more established subdivisions, philosophizing will always lag behind the experimental vanguard. Immense as this program for philosophy is, Woodger has made for it an important advance.

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Untersuchungen zur Werttheorie und Theodizee. GEORG KATKOV. (Veröffentlichungen der Brentanogesellschaft, III.) Brünn, Wien, Leipzig: Rudolf M. Rohrer. 1937. xi + 164 pp. 50 kč.

On the basis of Brentano's theory of value Katkov attempts a new solution of the problem of theodicy. The first part of the book

consists of a comprehensive criticism of Bentham's utilitarian principle in terms of Brentano's fundamental ethical axiom, that "we prefer the existence of the whole to the existence of a part of the good." Bentham's principle then becomes interpreted as a special case of this general statement.

While some points of his criticism hold, those which are used for the establishment of Katkov's theodicy seem to be rather questionable. The first criticism, for instance, which deals with the incomparability of qualitatively different values, is of no value for the final proof of the theodicy, which is mainly based on the assertion that we have to consider the distribution of values and not only the sum total. It seems to me that this criticism is not contradictory to the utilitarian principle but rather a necessary implication, since only a rational distribution can guarantee the greatest happiness of the greatest number. The next objection to Bentham's hedonism is founded on the conception of the *bonum variationis* and is exemplified as follows: It is better that a value "*A*" together with a value "*B*, of smaller value than *A*" exist, than that "*A*" exist twice. This criticism is not valid at all, because the so-called *bonum variationis* involves an offense against the just mentioned principle of the incomparability of values. From the utilitarian point of view we even might say that in some cases the distribution of values might be regarded as unjustified from the social point of view and might be the cause of competition and therefore of negative value. The author has seen this difficulty himself and distinguishes therefore between the rejection of a situation on account of social undesirability and on account of ethical evaluation. This can not be permitted either, since the evaluation of social situations is in itself ethically relevant.

After this preliminary criticism the author approaches the theodicy proper in criticizing Leibniz's statement, that the sum of the existing good surmounts the sum of the existing evil. Katkov maintains that the existence of only one unworthy being makes the whole world unworthy to be. For the same reason he also is opposed to any theodicy which defends the existence of evils as a necessary presupposition for the existence of free will. If the existence of free will would include the possibility of one unworthy being, no perfect God would tolerate free will. This statement again seems questionable since the exclusion of free will would deprive the universe of one major good, while on the other hand the assumption of free will must imply logically the possibility of bad decisions and the creation of evils.

Katkov's theodicy is based on the conceptions of the *bonum variationis* and particularly of the *bonum progressionis*. While

there should be no eternally unworthy and evil beings, the existence of finite evils and even of a majority of unworthy beings for a limited period of time can not be regarded as contradictory to the existence of a perfect world. The only condition is the continuous improvement of all single individuals and of the world as a whole.

While many of Katkov's analyses are rather interesting and valuable the whole book loses by its attempt to achieve the impossible.

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Psychology Down the Ages. C. SPEARMAN. London: Macmillan and Co., Ltd. New York: The Macmillan Company. 1937. 2 volumes: xi + 454 pp., vii + 355 pp. $7.50 the set.

Out of a life-time of psychologizing, Professor Spearman has written a history of psychology, as he indicates, "of a peculiar kind." He aims at depicting "not the waves, but the whole tide; not the course of psychology, but its development." This he does in easy stages by numbered paragraphs comprising short chapters with a summarizing "upshot" at the end of each. At the end of the two volumes, an epilogue, or upshot of all the upshots, condenses matters thus: "Psychology, since it left the apron strings of common sense and started to become a biological science, over two thousand years ago . . . has suffered from three chronic embarrassments: entanglement in the perplexities of philosophy; need of a pact with physiology; and the requirement of an adequately, though not exaggeratedly, rigorous method." It has also been cursed with "reckless simplicism," and novelty gained by facile destruction. "One writer becomes classical by denying some fact that is obvious. Another achieves no less reputation by proving it again. And so the wheel goes round and round."

After endless fluctuations between "form" and "material" during two millennia of study, "we might seem to come to a Mind which —save for the larger credit allowed to evolution—is disconcertingly similar to what it was originally supposed to be by common sense." But that is not the whole story, fortunately. On the side of function a "tremendous advance" has been made, "nothing less than that of showing how the mental processes are governed by laws." Two systems of such laws, one of the sequences of general psychology, and the other of the coexistences to be found in individual psychology, give promise of wide applicability. "Futile is the psychology that does not look forward to a sociology. Conversely, baseless is the latter when not founded on the former."

While philosophers will find many items of interest in the author's leisurely rearrangement of the variegated psychologies of the last two thousand years, they will be more likely to be aroused to agreement or disagreement by the chapter entitled "Renunciation of Philosophy." Here Professor Spearman contends that while philosophers have been "eminently successful in revealing vital problems," those which they have uncovered offer discouragingly small possibilities of solution. Philosophers are, "above all things, inclined to ruminate." They are continually disturbing the intellectual peace. But their ruminations end in "no generally admitted advance" toward solutions. "Brooding perhaps over their almost universal inability to convince one another, they have conceived the plan of discovering some *criterion,* by virtue of which genuine knowledge and mere opinion may be safely distinguished." No wonder psychologists are tempted to "turn philosophy out with a pitchfork," only to find it "ever come running back again."

The author's own policy toward the inescapable philosophical issues which honeycomb psychology is one of opportunism: "Empirical psychology may hope to pick out for itself whatever studies are amenable to its comparatively light methods of attack, leaving the more refractory problems to be reduced, if and when possible, by the heavier guns of philosophy . . . this severance of functions is not meant to preclude co-operation. On the contrary, hope is entertained by not a few that the problems of philosophy will be solved when, and only when, this takes scientific psychology as its starting point." The poverty and confusion of the latter, however, in some of the fields where it might be of the greatest service to philosophy, are evidenced in the chapters on "Thought" ("the general psychological interest in thought has nowadays sunk to a strangely low level"); "Mental Dynamics" or "Orexis" ("the laws of impulse and will . . . appear to be still so indefinite and disputed, that their scientific status is more a promise than an accomplishment"); "Unconscious Mind" ("Much perhaps of the current doctrines of the unconscious is confused, inaccurate, and even extravagant . . . but . . . all the older literature has become more or less obsolete"); "The Confusion That Is Gestalt Psychology" ("If Associationism may be regarded as Psychological Enemy No. 1, cannot Gestaltism put in a claim to be at any rate No. 2?"); and those dealing with Spearman's statistical factor G, and the other alleged factors W, P, O, and F. In sum, the course of psychology, sadly resembling philosophy in that respect, "has to a great extent been one of discovering, forgetting, and rediscovering." We often hear it said that politicians thrive on the short memories

of their constituents. So, it seems, do those who deal with mental science and its elusive key words.

H. A. L.

Denker der italienischen Renaissance. Gestalten und Probleme. RICHARD HÖNIGSWALD. Basel: Haus zum Falken. 1938. 248 pp. 10 fr.

This volume contains brief sketches of the ideas of some seventeen Italian thinkers from Plethon to Galileo, with a concluding characterization of "the philosophy of the Renaissance in Italy." It relies on the most recent German treatments, especially those of Cassirer, and Hönigswald seems to have some first-hand acquaintance with the major writings of the figures he has chosen. But he offers very little in the way of fresh interpretation, or even of fresh reading; and in view of his glaring misconceptions it is hard to believe that he has ever seen the works of many of the men, like the Averroists, to whom he freely refers. Although he proposes to treat these Italians in terms of their problems, there is almost no appreciation of the intellectual currents and issues against which their thought may be understood. He consistently overemphasizes the influence of Platonism: "Galileo's *own* teaching *is* through and through Platonism"—though Galileo did not know it, and vigorously opposed the Florentine Platonists (p. 230). This familiar mistake is the easier in that he includes none of the scientists upon whom Galileo built. Although Hönigswald's interpretations are so untrustworthy as to require constant checking, he does adopt a cautious and sober attitude toward the distinguishing traits of "Renaissance philosophy." He finds them to consist in a number of specific tendencies rather than in some general formula, and as against Burckhardt he claims that the cultivation of personality is to be carried on not in independence of social bonds but within a newly conceived community.

J. H. R., JR.

La notion de progrès devant la science actuelle. Sixième Semaine Internationale de Synthèse. Paris: Félix Alcan. 1938. 189 pp. 18 fr.

The date of this set of lecture-discussions, bringing together scientists and philosophers, is given as 1934, with no explanation of the delay in publication. The scientific summaries are still good, however, concerning psychical evolution and the psychology of invention, the nervous system, and heredity. But these lectures are on the progress of science. The assigned subject of the series, "What present-day science has to say about the concept of prog-

ress,'' seems not to be faced squarely by any of the speakers. The philosophical reader will find most to interest him in the first lecture, by René Hubert, on the history of the idea of progress as seen from a French viewpoint, and in the really striking lecture on ''Civilization and Progress,'' by Guglielmo Ferrero, who identifies historical progress with the overcoming of fear.

H. T. C.

OTHER NEW BOOKS AND JOURNALS

Roche, Jean: Le gouvernement de soi avec le secours des moralistes. Paris: Félix Alcan. 1938. 462 pp. 60 fr. (Brief selections from classic moralists on the subject of stoic virtue.)

Sinha, Jadunath: Indian Realism. London: Kegan Paul, Trench, Trubner & Co., Ltd. 1938. xvi + 287 pp. 10/6.

Schuhl, Pierre-Maxime: Machinisme et philosophie. Paris: Félix Alcan. 1938. 108 pp. 12 fr.

De Corte, Marcel: La philosophie de Gabriel Marcel. Paris: Pierre Téqui. 105 pp. (A useful set of three essays on a Catholic thinker who is probably not well known in America. The second essay is a lecture delivered at the Catholic University of Lille and appears to be the best introduction to the thought of Marcel.)

Kergomard, Jean; Salzi, Pierre; and Goblot, Francois: Edmond Goblot, 1858–1935. La Vie-L'Oeuvre. Paris: Félix Alcan. 1937. vii + 211 pp. 20 fr. (An authoritative biography of the French logician accompanied by a short bibliography of his work.)

Dunne, J. W.: An Experiment with Time. Fourth Edition revised. New York: The Macmillan Company. 1938. 297 pp. $2.75. (Since the first edition of this book (reviewed in this JOURNAL, Vol. XXIV, pp. 690–692), it has been considerably rewritten and enlarged. The ninety pages of new material contain fresh citations of dreams anticipating the future and a reply to critics of the author's theory of multi-dimensional time. But the lapse of (ordinary) time since 1927 has not made the author more sensitive to the need for evaluating his case material on dreams with the help of even elementary statistical techniques.)

Ortegat, Paul: Philosophie de la religion. Introduction critique: étude des systèmes modernes. (Museum Lessianum—Section Philosophique No. 20.) Paris: Desclée de Brouwer. 1937. 475 pp. 45 fr.

Blachly, Charles Dallas: The Mechanics of Light and Matter. Oklahoma City: The Commercial Press. 11 pp.

Zoul, Louis: On the Origin of Reason. New York: The Truth Seeker. 24 pp.

MIND. Vol. XLVII, No. 186. Man-Made Truth: *H. B. Acton.* Notes on the Second Part of Spinoza's *Ethics* (I): *H. Barker.* The "Polytheism" of Plato: an Apologia: *A. E. Taylor.* Language and Moral Philosophy: *Helen Wodehouse.* Logical Positivism and Scientific Theory: *C. D. Hardie.* Discussion—A Mistake of Plato's in the "Republic": a Rejoinder to Mr. Mabbott: *M. B. Foster.*

REVUE DE MÉTAPHYSIQUE ET DE MORALE. 45e Année, No. 2. Lettres à Félix Ravaisson. La loi de causalité: *A. Padoa.* Les normes formelles du raisonnement déductif: *J. Picard.* Bergsonisme et sociologie: *R. Lenoir.* La conscience et le monde d'après Alexander: *J. Pucelle.*

The following reprints have been received:

"Are the Humanities Worth Their Keep?" by C. J. Ducasse, from *The American Scholar,* Vol. 6, No. 4.

"Cosmecology: A Theory of Evolution" by Oliver L. Reiser, from the *Journal of Heredity,* Vol. XXVIII, No. 11.

"The Operational Principle in the Physical and Psychological Sciences," by J. R. Kantor, from *The Psychological Record,* (Bloomington, Indiana), Vol. II, No. I.

"L'aristotélisme et le vitalisme de Gobineau" by Philippe Devaux, from the *Revue Franco-Belge,* Déc. 1937–Janvier 1938.

"Prime linee di una filosofia dell'umorismo" by Giorgio del Vecchio, from XII Congresso Nazionale di Filosofia, Napoli, Settembre, 1937.

NOTES AND NEWS

We regret to learn of the death on April 26, 1938, in Freiburg, of Edmund Husserl.

We regret to learn of the death of Professor William A. Hammond of Cornell University and the Library of Congress, on May 7, 1938, in Washington, D. C. He was 77 years old.

The 1938 meeting of the American Psychological Association will take place at Ohio State University, Columbus, Ohio, September 7–10, 1938. Meeting at the same place are The American Association of Applied Psychologists (September 5–6), the Psychometric Society (September 7–9), and the Society for the Psychological Study of Social Issues (September 6).